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## Grade 7: Math

### 5.3 Central Tendency

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- Measures of central tendencies gives us a number that is close to most values in our data.
- We have already learned about 2 measures of central tendency.

➤ **Median**

➤ **Mode**

➤ **Mean (Average)** is another way of determining the central value in our data.

$$\text{MEAN} = \text{SUM of ALL NUMBER} \div \text{NUMBER OF NUMBERS}$$

1. Find the mean, median and mode of the following numbers.

- a. 7, 7, 7, 7, 7, 7, 7
- b. 5, 10, 10, 15
- c. 2, 3, 2, 2, 3, 15
- d. 3, 3, 6, 8, 10, 12, 16, 16, 20, 20, 25.
- e. 20, 21, 24, 24, 27, 29, 30.
- f. 121, 124, 124, 125, 126, 127.

2. The following are the Grade 7 Math final exam marks.

98, 78, 66, 73, 71, 71, 62, 80, 85, 81, 73, 85, 95, 97, 66, 76, 71, 73, 62, 95, 91, 74, 89

- a. Arrange this data in increasing order (least to greatest).
- b. How many students are there in the Grade 7 Math class?
- c. What is the class average?
- d. What is the class median?
- e. What is the class mode?

3. The following shows the number of cars crossing a street over 30 days.

Time	Number of cars
10 AM	2, 4, 6, 7, 19, 12, 23, 1, 23, 45, 35, 6, 2, 4, 12, 14, 15, 12, 11, 4, 5, 7, 6, 3, 3, 4, 5, 24, 23
11 AM	22, 14, 15, 27, 19, 12, 23, 24, 23, 5, 25, 6, 2, 4, 12, 4, 15, 2, 11, 3, 6, 11, 6, 3, 3, 4, 5, 24, 3
12 PM	1, 5, 25, 17, 29, 12, 3, 14, 21, 15, 5, 16, 2, 14, 1, 4, 25, 12, 11, 1, 3, 6, 11, 6, 13, 3, 4, 25, 24, 3

- Arrange all information in a separate stem and leaf plot.
  - What is the median of the number of cars at 10 AM?
  - What is the mode for the number of cars crossing at 12 PM?
  - What is the average number of cars crossing at 11 PM?
4. Determine the median and mode of the following numbers.
- 112, 115, 45, 129, 123, 145, 147, 142, 146
  - 8, 8, 9, 7, 6, 2, 7, 8, 6, 7, 5, 73, 83
  - 150, 152, 135, 176, 145, 152, 165, 190, 175, 135, 159
5. In question 4 which central tendency give a better picture of the data values?
- Give an example of 3 numbers (all number have to be different) with mean 40.
  - Give an example of 3 numbers (all number have to be different) with mean 31.
  - Give an example of 3 numbers (all number have to be different) with mean 20.
  - Give an example of 3 numbers (all number have to be different) with mean 15 and median 10.

- Homework:** Please complete problems #1-7 page 200-201.